What Is Claimed Is:

1. A method of providing wireless data communication service between a moving object having a communication server and a first ground station, the method comprising:

5   establishing a radio communication path between the moving object and a first ground station;

establishing a connection between the first ground station and a second ground station;

bridging the radio communication path from the first ground station to the second

10   ground station;

transmitting data to the second ground station via the first ground station using a first protocol associated with the radio communication path and a second protocol associated with the connection between the first ground station and the second ground station;

15   establishing a link layer connection between the moving object and the first ground station using a point-to-point protocol; and

wherein the communication server includes software architecture including a plurality of software functional layers.

2. A method of providing data communication services, comprising:

20   establishing a radio communication path between a moving object and a ground station using a data communication server co-located with the moving object, the data communications server including a plurality of interface units for accessing different data

networks including an Ethernet interface unit, an ISDN interface unit, and a pre-

determined wireless data network interface unit;

    said step of establishing including:

        sending a channel request signal, via the ISDN interface unit and a

5   communication unit, to the ground station; and

        receiving an acknowledgement signal via the ISDN interface unit

and the communication unit, including a channel assignment, back from

the ground station indicating a channel is being made available and being

assigned for the radio communication path;

10   transmitting data to and receiving data from said ground station over said packet

data network, said data including either of user information or moving object operation

information;

    wherein said data communication server includes software architecture including

software functional layers, the layers including a system resources layer, a system

15   services layer, an application programming interface layer, and an application layer, and

the application programming interface layer including components representable by

objects for providing communication services with each object including a

communicator, a receptor, and service logic;

    wherein the objects include objects for retrieving time-sensitive information for a

20   user, a FMS object for database loading, and FOQA object for obtaining and managing

ACMS data; and

    the system services layer including either of TCP/IP, data compression,

cryptographic, scheduling, or transaction-oriented services.

3. The method of claim 2, wherein the time-sensitive information includes either of sports scores, business information, news information, weather information, traffic information, politics information, and financial information.

4. The method of claim 2, wherein the ground station is used as a proxy server for the data communication server and the TCP/IP services includes file transferring, the file transferring occurring at an adjusted transfer rate in response to previous measurements of the transfer rate in determining network performance.

5. The method of claim 2, wherein the user information includes time-sensitive information that is obtained by:

permitting a user to request an update of the time-sensitive information using a graphical user interface, the time-sensitive information being stored in a user profile;

reviewing the user profile containing the time-sensitive information requested by the user to verify the status of the current time-sensitive information;

requesting an update of the time-sensitive information when the time-sensitive information is determined to be no longer current;

retrieving the updated time-sensitive information; and

presenting the updated time-sensitive information to the user.

6. The method of claim 5, wherein:

said step of reviewing includes initiating an SQL query of a time-sensitive information table, stored in the user profile, using an SQL manager at the System Services layer to verify if the time-sensitive information is current;

said step of retrieving includes invoking the SQL manager to query time-sensitive information records for instructions to initiate an SQL-based data query and instructing

the SQL manager to retrieve the updated time-sensitive information, and the SQL

manager initiating queries by establishing either of a TCP or UDP SQL port connection

to an SQL at the ground station; and

said step of presenting includes presenting the updated time-sensitive information

to the user via the graphical user interface.

7. The method of claim 2, wherein said user information includes information

enabling the user to select an item for purchase from a duty-free seller from catalog

information displayed to the user, and enabling the user to provide credit card

information to complete the purchase.

8. The method of claim 2, wherein said user information is selected from the

group consisting of information enabling the user to receive pre-selected catering services

upon the moving object, information regarding connecting gates, user profile

information, sports scores information, connecting gate information, airline reservation

system information, messaging service information, internet services information, real-

time information relating to moving object operation, and user medical information

9. The method of claim 2, wherein said moving object operation information

includes information relating to inventory carried by the moving object, including

catering supplies.

10. The method of claim 2, wherein said moving object operation information

includes email and said user information includes email directed to users.

11. The method of claim 2, wherein said moving object operation information

includes either of engine performance data, baggage tracking information, ELS/Logbook

system data, FOQA information, performance reports relating to pilot actions, weather information, or CDL information.

12 A method of providing data communication services, comprising:

establishing a radio communication path between a moving object and a ground station using a data communication server co-located with the moving object, the data communications server including a plurality of interface units;

said step of establishing including:

sending a channel request signal to the ground station; and

receiving an acknowledgement signal back from the ground station;

transmitting data to and receiving data from said ground station, said data including either of user information or moving object operation information;

wherein said data communication server includes software architecture including software functional layers, the layers including a system resources layer, a system services layer, an application programming interface layer, and an application layer, the application programming interface layer including a device for retrieving time-sensitive information.

13. The method of claim 12, wherein the time-sensitive information includes either of sports scores, business information, news information, weather information, traffic information, politics information, and financial information.

14. The method of claim 12, wherein the user information includes sports scores that are obtained by:

permitting a user to request an update of the sports scores using a graphical user interface, the sports scores being stored in a user profile;

reviewing the user profile containing the sports scores requested by the user to verify the status of the current sports scores;

5   requesting an update of the sports scores when the sports scores are determined to be no longer current;

retrieving the updated sports scores; and

presenting the updated sports scores to the user.

15. The method of claim 14, wherein:

10   said step of reviewing includes initiating an SQL query of a sports scores table, stored in the user profile, using an SQL manager at the System Services layer to verify if the sports scores data is current;

said step of retrieving includes invoking the SQL manager to query a sports scores locator records for instructions to initiate an SQL-based data query and instructing

15   the SQL manager to retrieve the updated sports scores, and the SQL manager initiating queries by establishing either of a TCP or UDP SQL port connection to an SQL at the ground station; and

said step of presenting includes presenting the updated sports scores to the user via the graphical user interface.

20   16. A system for providing data communication services, comprising:

a data communication server, co-located with a moving object, for establishing a radio communication path between a moving object and a ground station;

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wherein the data communication server including software architecture including

software functional layers, the layers including a system resources layer, a system

services layer, an application programming interface layer, and an application layer.

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